

### **REMARKS**

In the Office Action mailed on March 6, 2006, the Examiner has required an election of a single disclosed species for prosecution on the merits under 35 U.S.C. 121 from one of the following groups:

Species I. Claims 1-22, host materials on anode side of the emissive layer,

Species II. Claims 23-40, host materials on cathode side of the emissive layer,

Species III. Claims 41-42, host material comprised of a plurality of sublayers.

After careful review, Applicants respectfully submit that the requirement to elect one of the above species proposed by the Examiner is improper and should be withdrawn for the following reasons.

The present application is directed to an organic light emitting device (OLED) having an emissive layer that comprises an emissive dopant material and a host material. In the present invention, the emissive layer has a non-uniform concentration of an emissive dopant in a host material. The concentration of the emissive material varies across the emissive layer. In one embodiment of the invention, the emissive layer may be comprised of multiple sublayers, each doped with different concentrations of the emissive dopant. Alternatively, the emissive layer may be comprised of a single layer having a continuous concentration gradient of the emissive dopant.

For example, claim 1 is directed to an OLED comprising an emissive layer disposed between and electrically connected to an anode and a cathode. The emissive layer comprises a host material and a phosphorescent emissive material wherein the concentration of the phosphorescent emissive material varies across the emissive layer such that the concentration

of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is higher than the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer.

For ease of reference, selected claims are reproduced below:

1. An organic light emitting device comprising an emissive layer disposed between and electrically connected to an anode and a cathode, wherein the emissive layer comprises a host material and a phosphorescent emissive material, and wherein the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 1% to about 50%, the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 0.5% to about 20%, and the difference between the concentrations of the phosphorescent emissive material in the host material on the anode-side of the emissive layer and the cathode side of the emissive layer are at least about 0.5%.
23. An organic light emitting device comprising an emissive layer disposed between and electrically connected to an anode and a cathode, wherein the emissive layer comprises a host material and a phosphorescent emissive material, and wherein the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 1% to about 50%, the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 0.5% to about 20%, and the difference between the concentrations of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer and the anode-side of the emissive layer are at least about 0.5%.
41. An organic light emitting device comprising an emissive layer disposed between and electrically connected to an anode and a cathode, wherein the emissive layer comprises a first sublayer, a second sublayer and a third sublayer, each of which comprises a host material and a phosphorescent emissive material, wherein:  
the first sublayer is on the anode-side of the emissive layer and the concentration of the

phosphorescent emissive material in the host material in the first sublayer about 1% to about 50%;

the third sublayer is on the cathode-side of the emissive layer and the concentration of the phosphorescent emissive material in the host material in the third sublayer about 1% to about 50%; and

the second sublayer is disposed between the first sublayer and the third sublayer, and the concentration of the phosphorescent emissive material in the second sublayer is about 0.5% to about 20%;

and wherein

the difference between the concentrations of the phosphorescent emissive material in the host material in the first sublayer and in the second sublayer is at least about 0.5%, wherein the first sublayer has a higher concentration of the phosphorescent emissive material than the second sublayer, and

the difference between the concentrations of the phosphorescent emissive material in the host material in the third sublayer and the second sublayer are at least about 0.5%, wherein the third sublayer has a higher concentration of the phosphorescent emissive material than the second sublayer.

In contrast to the claimed invention, Species I and II require “host materials on anode side of the emissive layer” or “host materials on cathode side of the emissive layer,” respectively. Applicants respectfully submit that the species are unclear, as the claims do not require “host materials” to be on the anode-side or the cathode-side of the emissive layer. Rather, the emissive layer of the claimed invention is comprised of a host material into which a phosphorescent emissive material has been doped.

Species III requires “host material comprised of a plurality of sublayers.” Applicants respectfully submit that this species is also unclear, as the claims do not require a “host material comprised of a plurality of sublayers.” Rather, it is the *emissive layer* which may be comprised

of a plurality of sublayers. Further, as can be seen from the dependent claims 6, 17, 28 and 37, each of which is directed to an OLED having an emissive layer that is comprised of a first sublayer and a second sublayer, a plurality of sublayers is not exclusive to claims 41-42.


Due to the inconsistencies between the proposed Species and the pending claims, Applicants respectfully request that this requirement for election be withdrawn.

Applicants elect Species III directed to the "plurality of sublayers," with traverse, for prosecution on the merits in this application. The claims which read on Species III are: Claims 1-4, 6-15, 17-26, 28-35, and 37-42.

Applicants respectfully request that, upon the allowance of a generic claim, claims directed to non-elected species including all the limitations of the generic claim be considered, in accordance with 37 C.F.R. § 1.141, and ultimately allowed.

If for any reason the Examiner believes that prosecution of this application would be advanced by contact with the Applicants' attorney, the Examiner is invited to contact the undersigned at the telephone number given below.

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Respectfully submitted,  
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